

QUARTERLY FOCUS -- 1997: YEAR IN REVIEW

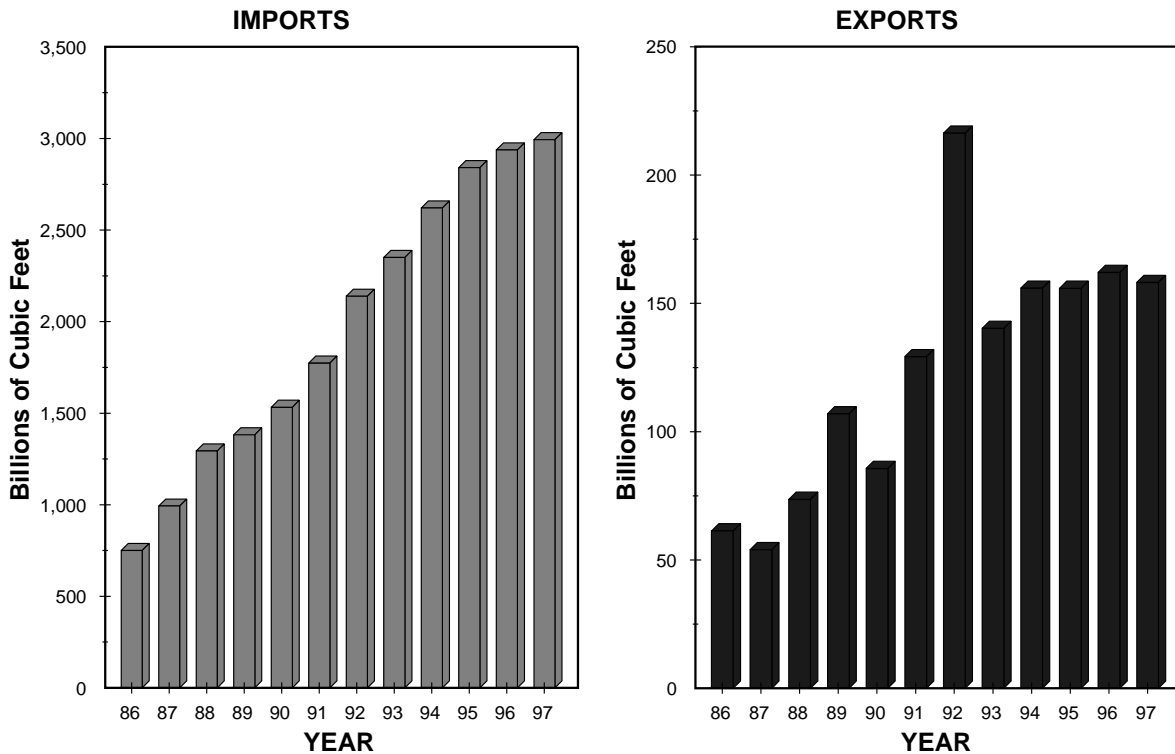
Table 1

--- YEAR AT A GLANCE ---		
<u>TOTAL IMPORTS*</u>		
<u>COUNTRY OF ORIGIN</u>	<u>BCF</u>	<u>WEIGHTED AVERAGE PRICE</u>
Canada	2898.7	\$2.11
Algeria	65.7	\$2.43 **
Mexico	17.2	\$2.28
Australia	9.7	\$2.56 **
United Arab Emirates	2.4	\$3.35
TOTAL	2993.7	
<u>TOTAL EXPORTS*</u>		
<u>COUNTRY OF DESTINATION</u>	<u>BCF</u>	<u>WEIGHTED AVERAGE PRICE</u>
Japan	62.2	\$3.81 ***
Canada	57.5	\$2.50
Mexico	38.4	\$2.43
TOTAL	158.1	
*	Data filed with DOE by importers/exporters.	
**	Distrigas Corporation's average landed price for Algerian LNG was \$2.73 and \$2.49 for the volumes imported from Australia. Duke Energy LNG Sales, Inc.'s average tailgate price for Algerian and Australian LNG imports was \$2.23 and \$2.77, respectively.	
***	Delivered price.	

- **Table 1** shows the volumes and prices of natural gas imports by country of origin, and natural gas exports by country of destination for 1997. The weighted average price for imports is the per unit price (MMBtu) at the point of entry into the United States. The price shown for exports is at the point of exit, with the exception of sales to Japan; the price of exports to Japan is shown as a delivered price.
- Natural gas imports, for the tenth consecutive year, reached an historic high in 1997. The United States imported 2,993.7 Bcf and exported 158.1 Bcf of natural gas, resulting in **net** imports of 2,835.6 Bcf for the year. This represents an increase of 61.2 Bcf, or 2 percent over the 1996 level (2,774.4 Bcf).
- In 1997, natural gas exports decreased by 4.7 Bcf, or 3 percent from the 1996 level (158.1 v. 162.8 Bcf). Exports to Mexico increased, while exports to Japan and Canada showed moderate declines.

Natural Gas Import and Export Activity 1986 - 1997

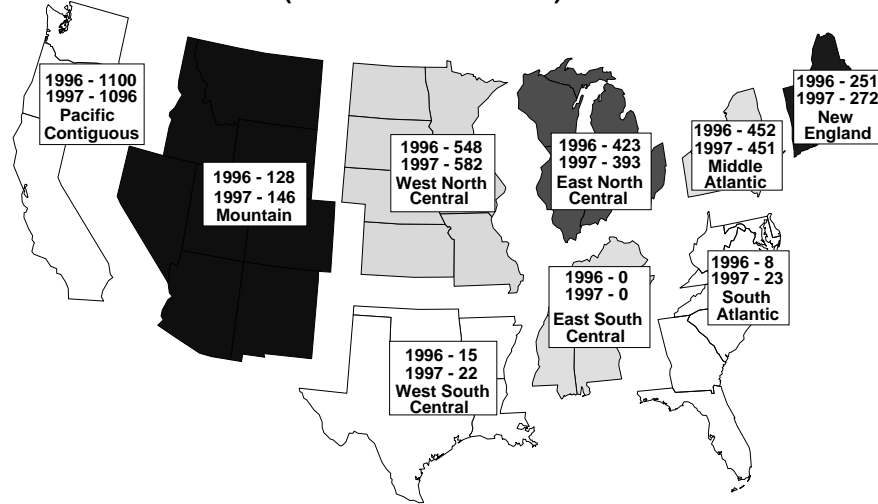
Figure 1



- **Figure 1** shows natural gas import and export activity over the past 12 years (1986-1997).
- From 1986 to 1997, imports have grown by 299 percent (750 Bcf v. 2,993 Bcf). Additionally, **net** imports as a percentage of total domestic gas demand have grown from 4.2 percent in 1986 to an estimated 12.9 percent in 1997. In 1996, **net** imports as a percentage of total gas demand was 12.6 percent, up from 12.4 percent in 1995.
- Total imports into the U.S. saw a modest gain this year (2,994 Bcf v. 2,937 Bcf in 1996). The largest gain in volumes came from increased imports of LNG (up 37.7 Bcf or 94% from last year). Imports from Mexico saw moderate growth (17.2 v.13.9). The rate of growth from Canadian imports was the lowest in eleven years due in large part to the lack of sufficient pipeline capacity into the U.S. Exports were at their second highest level in the last five years (158.1 Bcf), but fell from last year’s high of 162.8.
- During 1997, about 40 percent (62.2 Bcf) of the gas exports were shipped to Japan, 36 percent of the volumes (57.5 Bcf) were exported to Canada, and 24 percent (38.4) of the volumes were exported to Mexico. As shown in **Figure 1**, the largest volume of gas exports occurred in 1992; this historic high level of exports was the result of record export sales to both Canada and Mexico.

**Estimated Sales of Imported Natural Gas
By Census Division - 1996 and 1997
(Billions of Cubic Feet)**

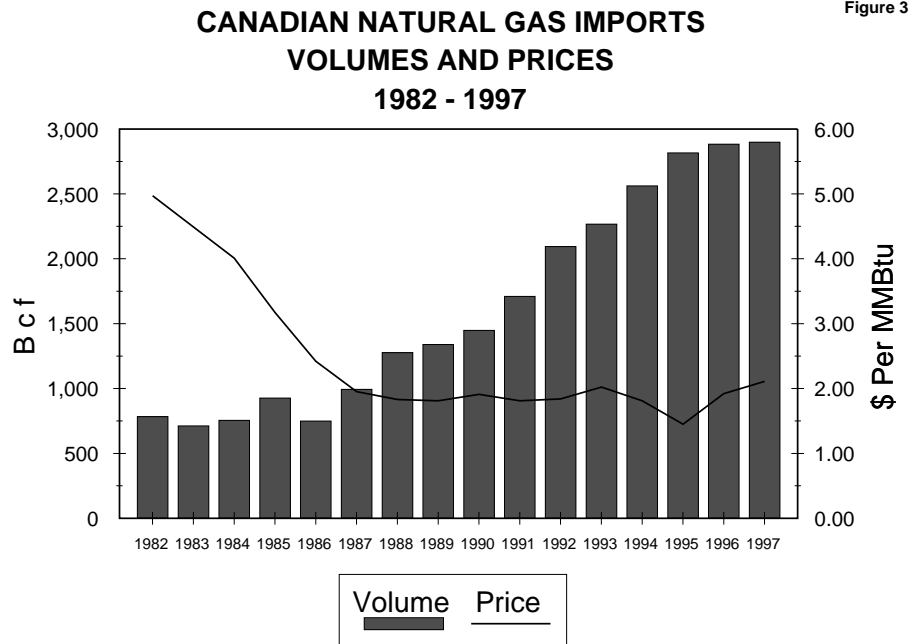
Figure 2



Note: Import sales do not equal imports due to fuel use, linepack, storage, imbalances and undetermined markets.

- During 1997, natural gas imports into the United States continued to grow, albeit rather slowly. As illustrated in **Figure 2**, the four geographic areas showing the greatest growth in consumption of imported gas supplies in 1997 were Region 1 (New England), Region 5 (South Atlantic), Region 4 (West North Central), and Region 8 (Mountain).
- Our Office does not believe that the growth in import sales in Region 4 is valid. The marketing information filed by importers selling gas in Census Regions 3 (East North Central) and 4 (West North Central) are often commingled because end-use markets often are difficult for the importer to identify due to spot sales to other marketers at the end of the Northern Border Pipeline facility; therefore, the growth shown in Region 4 during 1997 undoubtedly is overstated since the combined sales between these two regions is virtually the same as in 1996.
- The growth in import sales in Regions 1 and 2 were almost exclusively the result of increasing sales of imported LNG into these two areas. As shown in **Figure 2**, New England experienced an increase in gas import sales of 21 Bcf over the 1996 level; this volume was the same increase in LNG sales reported by Distrigas Corporation in 1997 for this market. Similarly, the increase in gas import sales in the South Atlantic Region was the result of increased imports of LNG by Duke Energy LNG Sales, Inc. at its affiliate's LNG terminal located at Lake Charles, Louisiana. Over 23 Bcf of this gas supply was used for electricity generation in the State of Florida. This compares with Florida LNG sales of only 5 Bcf in 1996.
- For the second year in a row, Census Region 8 (Mountain) experienced the greatest growth rate in Canadian gas import sales on a percentage basis -- 14 percent. Although there was a drop in Canadian gas sales in Montana, the States of Colorado, Idaho and Nevada showed increased purchases of imported gas.

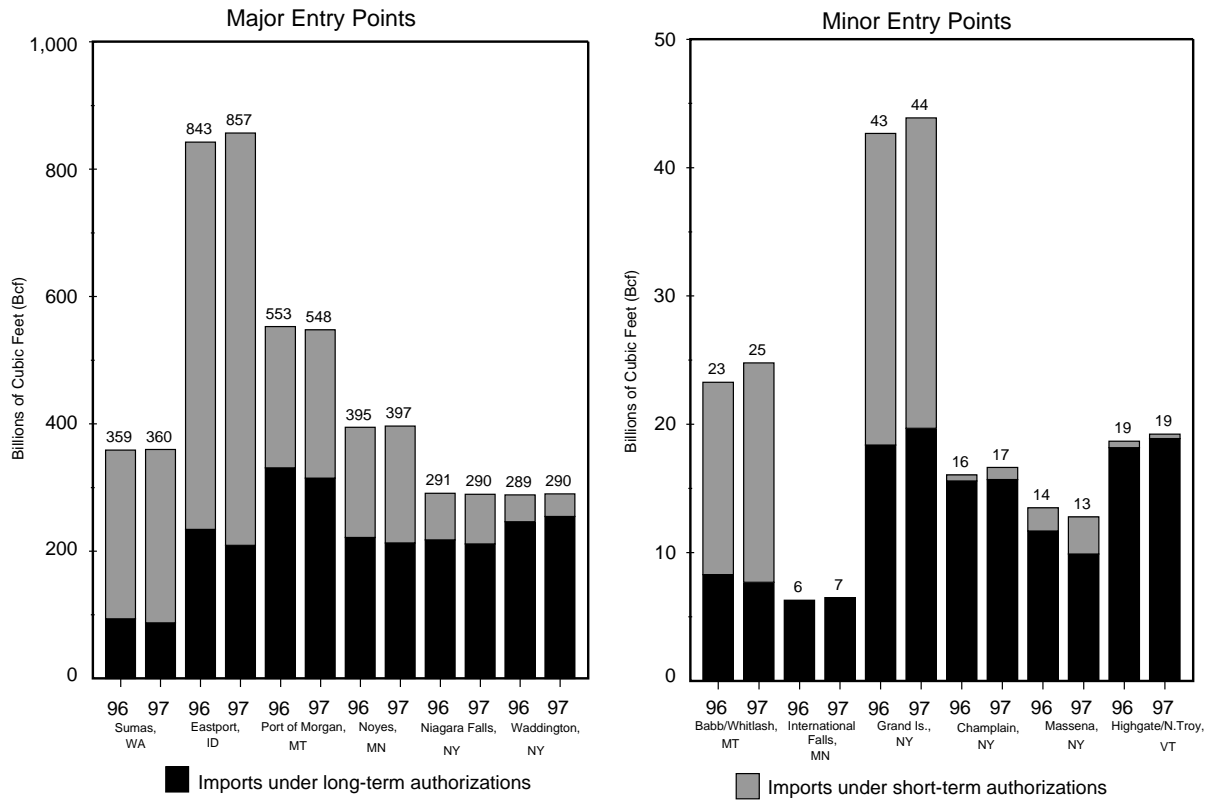
UNITED STATES - CANADA TRADE



- **Figure 3** shows the volume and price trend for Canadian natural gas imports during the past 16 years.
- Canadian natural gas imports in 1997 grew by 15.4 Bcf and established a new record at 2,898.7 Bcf; however, the rate of growth in 1997 (.5 percent) was the lowest of the past eleven years. The average international border price for Canadian gas supplies in 1997 was \$2.11 per MMBtu. This price was 10 percent higher than last year's average price of \$1.92 per MMBtu.
- The increase in the price for gas supplies has resulted in an increase of revenues for Canadian gas producers. In 1997, it is estimated that Canadian gas revenues reached \$6.1 billion; this compares with estimated 1995 revenues of \$4.1 billion. During this two-year period, Canadian gas revenues have increased by about 49 percent. This increase was caused in large part by an increase in the price for these supplies. Although Canadian gas imports rose modestly during this period, the average price of Canadian gas rose close to 46 percent (1995: \$1.45 per MMBtu; 1997: \$2.11 per MMBtu).
- The average price of gas imported from Canada in 1997 was \$2.42 per MMBtu under long-term contracts (contracts longer than 2 years) and \$1.84 per MMBtu under short-term contracts (contracts of 2 years or less).
- During 1997, Canada's share of the natural gas import market in the United States was 96.8 percent. LNG imports from Algeria, Australia, and the United Arab Emirates comprised about 2.6 percent of the import market, and Mexico's share equaled about .6 percent.

Canadian Natural Gas Imports By Point of Entry 1996 vs 1997

Figure 4

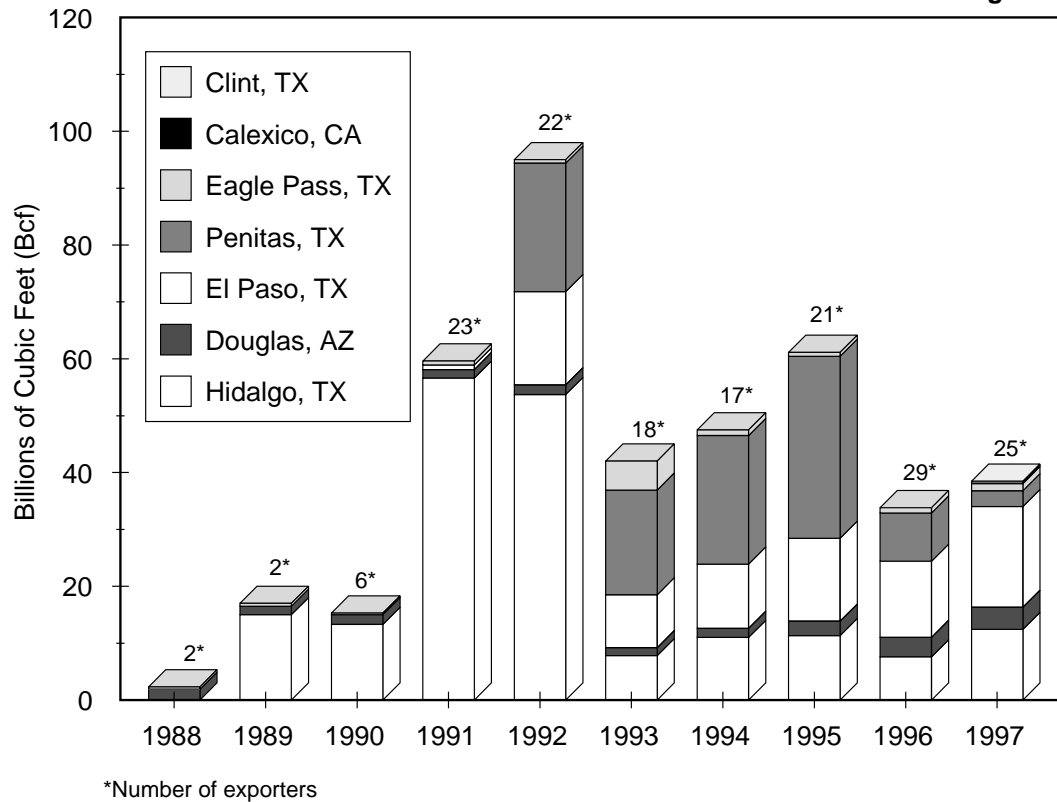


Note: Graph does not include entry points for LNG and Mexican imports, as well as several minor Canadian entry points.

- **Figure 4** compares natural gas imports from Canada by point of entry for 1996 and 1997. The bar chart distinguishes between imports made under short-term and long-term import authorizations.
- **Figure 4** shows similar levels of imports continued at most major import points. During 1997, the international border point of Eastport, Idaho showed the most increase in activity. In addition, several minor entry points saw modest increases in volumes including Babb/Whitlash, Montana; International Falls, Minnesota; Grand Island, New York; and Champlain, New York.
- The consistent levels of natural gas entering the country at most U.S. import points indicate that pipelines are running at full capacity to accommodate the tremendous growth in import activity which has occurred over the past eleven years. As a result, many natural gas pipeline expansions currently are underway to facilitate increased trade between the U.S. and Canada.

UNITED STATES - MEXICO TRADE

**Natural Gas Exports To Mexico By Point of Exit
(1988 - 1997)** Figure 5



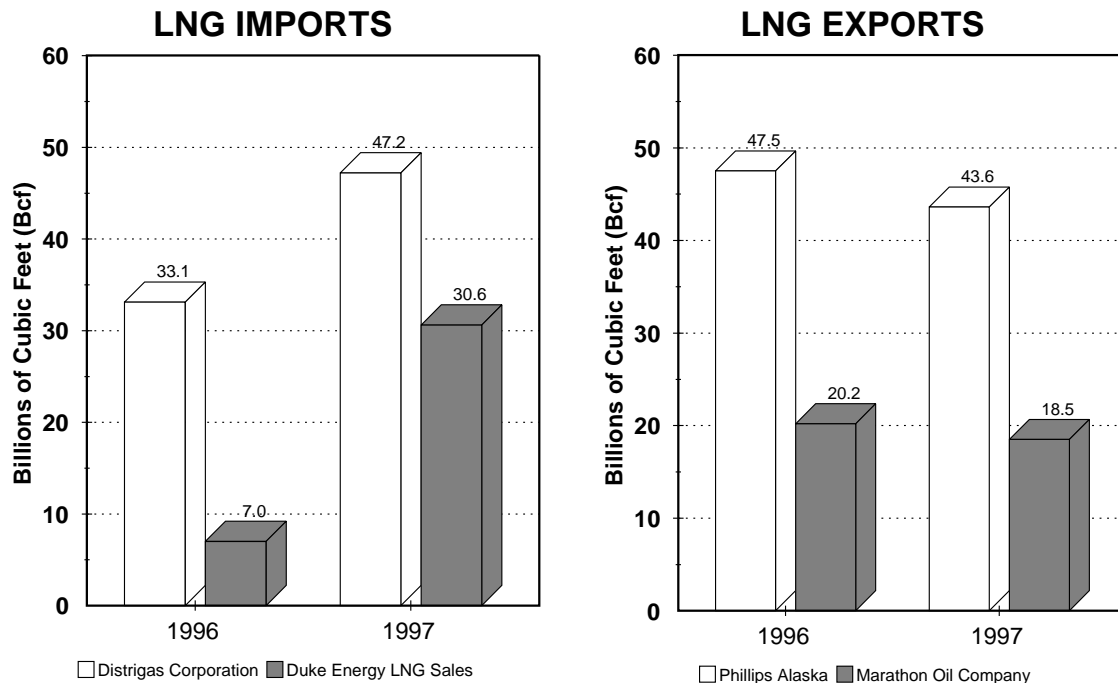
- During 1997, 25 companies exported 38.4 Bcf of natural gas to Mexico, and two-thirds of the volumes were exported during the second half of the year. Exports to Mexico during the third quarter totaled 15.5 Bcf, the highest level since the second quarter of 1995 (20.7 Bcf). The weighted average price of 1997 exports to Mexico was \$2.43 per MMBtu. This price was about 16 percent higher than last year's average price of \$2.09. Monthly weighted average prices reached a high of \$4.00 per MMBtu in January, and a low of \$1.50 in March.
- Natural gas from the U.S. reached new Mexican industrial and consumer markets this year with the start-up of two new pipeline projects:
 - Samalayuca Pipeline: This \$35 million project, a 50/50 joint venture agreement between El Paso Energy Corporation and Pemex, represents the first time a gas pipeline in Mexico has been partially owned by a U.S. company. On December 20, 1997, natural gas flowed from the U.S. border at Clint, Texas to the Samalayuca I natural gas-fired powerplant in northern Mexico and to consumers in the state of Chihuahua. In the coming year, the pipeline will transport additional supplies to the new Samalayuca II Power Plant and will serve to meet the energy demands of the city of Juarez, Mexico.

- Calexico Pipeline Project: This new pipeline is part of San Diego Gas and Electric Company's and Southern California Gas Company's (SoCalGas) joint venture to market gas to Mexico. The pipeline interconnects with facilities constructed by Distribuidora de Gas Natural de Mexicali, a newly formed natural gas distribution system in Mexicali, Mexico. Beginning in July 1997, natural gas was exported at SoCalGas' border-crossing facility near Calexico, California, making gas available to Mexicali for the first time.
- Modest growth in gas exports to Mexico reflects the increase in natural gas production by Petroleos Mexicanos (Pemex) during 1997. Production for the year increased to about 4.6 Bcf per day, up 7.2 % for the year. Pemex seems to be on track to achieve its natural gas production goal of 5 Bcf per day by the year 2000.
- During 1997 imports from Mexico grew 24 percent over the 1996 level (17.2 Bcf v. 13.9 Bcf). In the first quarter, volumes of 7.0 Bcf represented the highest level of imports from Mexico since 1984. Volumes in the third quarter (1.1 Bcf) reached the lowest level since the second quarter of 1995. The average international border price for Mexican gas supplies was \$2.28 per MMBtu. This price was 3 percent higher than last year's average price of \$2.22 per MMBtu.

LNG TRADE

Figure 6

**LNG TRADE
1996 vs 1997**



- **Figure 6** compares imports and exports of liquefied natural gas (LNG) for 1996 and 1997.
- During 1997, Distrigas Corporation (Distrigas) and Duke Energy LNG Gas Sales, Inc. (Duke Energy), formerly PanEnergy LNG Sales, Inc., imported an aggregate 77.8 Bcf of LNG into the United States. These volumes represent the highest level of imported LNG since 1993, when 81.7 Bcf entered the country. Approximately 61 percent (47.2 Bcf) was delivered to Distrigas at its Everett, Massachusetts terminal, while the remaining 39 percent (30.6 Bcf) was delivered to Duke Energy at Trunkline LNG Company's terminal located at Lake Charles, Louisiana.
- As shown in **Figure 6**, LNG imports during 1997 increased by 94 percent from the 1996 level (77.8 v. 40.1 Bcf). Imports by Distrigas grew by 43 percent from last year (47.2 v. 33.1), and imports by Duke Energy increased by 337 percent over the 1996 level (30.6 v. 7.0), and a whopping 500 percent over the 1995 level (30.6 v. 5.1).
- During 1997, a total of 31 cargoes of LNG were imported into the United States. Distrigas imported a total of 19 cargoes; it purchased 15 cargoes from Algeria under its long-term import authorization and 3 cargoes from Australia and one cargo from the United Arab Emirates under its two-year blanket import authorization. Duke Energy imported a total of 12 cargoes in 1997; it purchased 11 cargoes from Algeria under its long-term import authorization and one cargo from Australia under its two-year blanket import authorization. The 5 cargoes of LNG imported by Distrigas and Duke Energy under their respective blanket import authorizations represented a tremendous growth in the purchases of LNG on the spot market by these two companies. Although in past years Distrigas has brought in a tanker or two under its blanket import authorization, 1997 was the first year in which Distrigas scheduled multiple deliveries from certain exporting countries and the first year in which Duke Energy utilized its blanket import authorization.
- The purchasing of LNG on the spot market is likely to continue in the foreseeable future as it seems to be reflective of a world-wide surplus of LNG production capacity, reduced demand caused by economic problems in the Far East, and reduced costs caused by new technological developments in the liquefaction process. These factors, among others, are making LNG competitive in more distant markets. Despite the competitive gains made by the LNG industry, the continuation of spot sales of LNG into this country during 1998 will hinge primarily on whether the market price for gas remains high enough to justify long distance sales. In early 1998, the price for natural gas is somewhat lower than the same time last year due to the mild winter and abundant storage gas.
- The average landed price of LNG imported in 1997 by Distrigas under its long-term contract with Algeria was \$2.73 per MMBtu, a six percent increase over the 1996 price of \$2.58 per MMBtu. With respect to Duke Energy's purchases of Algerian LNG under a long-term contract, the average tail-gate price in 1997 was \$2.00 per MMBtu, the same as the price in 1996. The average landed price of spot market purchases by Distrigas and Duke Energy in 1997 was \$2.64 per MMBtu; this compares with a 1996 average spot market price of \$3.20 per MMBtu.

- This year marked the first time Australian LNG was imported into the United States. In May 1997, Distrigas received its first spot cargo of LNG from Australia's North West Shelf, with two additional cargoes arriving in September and November. In November, Duke Energy purchased its first spot cargo of Australian LNG. These voyages marked some of the longest LNG transits on record, lasting approximately one month and covering over 12,000 nautical miles. In addition to the Australian spot volumes, Distrigas brought one cargo of LNG last March from the United Arab Emirates.
- Demand for LNG is continuing to grow around the world. In the United States, growing gas demand in New England is increasing the use of imported LNG supplies in the region. Contributing to the rise in Northeast demand are the shut-down of several nuclear power plants, and the proposed development of new gas-fired generation plants. In addition, the market outside of electricity generation in New England is continuing to grow. Although some of the region's demand for increased supplies of gas will be met by the planned Portland Natural Gas Transmission System and the Maritimes and Northeast Pipeline, LNG is still expected to play a large role in meeting this growing gas market.
- In 1997, the development of new facilities for the import and export of LNG continued to advance. Provided is a review of two important efforts:
 - Trinidad and Tobago: The \$1.4 billion export project represents the first LNG plant to be built in the Western Hemisphere in 25 years. In September 1997, sponsors for the venture secured \$600 million in financing, representing one of the largest project funding agreements ever to be completed in the Caribbean/Latin American region. The project involves developing the natural gas resources off of Trinidad's east coast and building an LNG facility in the Point Fortin area in the southwest of Trinidad. Construction has been underway since second quarter 1996, with an anticipated completion date of mid-1999. The plant's design capacity of 400 MMcf/day will be used to its target markets in the Northeastern United States, Spain, and Puerto Rico.
 - EcoElectrica : A major new LNG import project currently is underway in Puerto Rico. In April 1995, DOE issued an Order authorizing EcoElectrica, L.P. (EcoElectrica), to import up to 130 Bcf of LNG per year over a 40-year period. EcoElectrica is a limited partnership consisting of KENETECH Energy Systems, Inc. and Enron Development Corp. The LNG supply is going to be used to fuel a 461-megawatt powerplant being built by EcoElectrica on the south coast of Puerto Rico near the city of Ponce. EcoElectrica has entered into a power sales agreement with the Puerto Rico Electric Power Authority. Recently, EcoElectrica announced that it had completed project financing in December 1997 and construction of its powerplant began in January 1998. It further stated that it had completed negotiations with Distrigas for acquiring 10 cargoes per year of LNG supplies (approximately 29 Bcf) from Trinidad over a 20-year period. EcoElectrica now estimates that construction of the powerplant will be completed by the end of 1999, with the importation of LNG beginning in early 2000.

- **Figure 6** also shows the volume of LNG exported by Phillips Alaska Natural Gas Corporation (Phillips) and Marathon Oil Company (Marathon) from Kenai, Alaska, to Japan during 1996 and 1997.
- LNG exports to Japan declined 8 percent in 1997 from the 1996 level (62.2 v. 67.7 Bcf). The weighted average delivered price for these volumes in 1997 was \$3.81 per MMBtu, a 6 percent increase over the 1996 price of \$3.61 per MMBtu. During 1997, a slowdown in the Japanese economy produced fewer requirements for electric power generation, reducing the demand for LNG.

Note: Data used in this report are from company filings made with the Office of Fossil Energy (FE). All 1996/97 year-to-year comparisons utilize FE data. One should be mindful of the fact that FE data is collected on an equity (sales) basis, rather than on a custody (physical movements) basis, as employed by the Energy Information Administration (EIA) in its reports. As a consequence, the data may have some minor variances.